



PRODUCT DATA SHEET

LC-E421

250 Degree Curing Flame Retardant Epoxy Carbon Prepreg

Description

LC-E421 is a single or two side coated, 250°F (121°C) flame retardant epoxy carbon prepreg designed for a multitude of sandwich panel construction(s) as well as multiple ply laminates. This system can be used in a low tack version (press applications) or high tack and drape for complex contours and shapes.

Advantages

LC-E421 can be layered up using various core materials without the use of additional film adhesives. Excellent strength and toughness allow for LC-E421 to perform well in a variety of finished part shapes and sizes. Low volatiles have also proven ideal for low void, multiple ply lay ups. A wide variety of cure cycles, cure temperatures and pressure also allow for LC-E421 to be very user friendly throughout processing.

Physical Properties

Density: 1.45 G/cm³ per ASTM D792
Gel Time @ 275°F (135°C): 4-6 minutes
Glass Transition Temperature (T_g): 218°F (103°C)
Color: Cream
Tack: Medium

Shelf Life/Out Life/Storage

Shelf Life: 6 months from Certification Date
Out Life: 14 days @ 70°F (21°C)
Storage Temp: 40° F or below

Processing/Cure Cycle Recommendations

LC-E421 can be processed at temperatures from 235°F. (113°C.) for 90 minutes to 290°F. (143°C.) for 40 minutes, using low, medium or high pressure. A 250°F (121°C) cure for 60 minutes is optimal in most cases using press, vacuum bag or autoclave processing with 25 psi pressure.

Mechanical Properties				
Property	Tested per Specification	R.T. (75 °F)	R.T. Wet	160 °F
Ultimate Tensile Strength (psi)	FTMS 406	81,650	N/A	59,370
Tensile Modulus (PSI x 10E6)	FTMS 406	8.7	N/A	8.4
Ultimate Compression Strength (psi)	FTMS 406	73,250	N/A	61,300
Compression Modulus (PSI x 10E6)	FTMS 406	8.6	N/A	8.2
Ultimate Flexural Strength (psi)	FTMS 406	114,250	N/A	106,650
Flexural Modulus (PSI x 10E6)	FTMS 406	9.5	N/A	9.2
Horizontal Shear (psi)	FTMS 406	8350	N/A	N/A

Sandwich Properties				
Property	Tested per Specification	R.T. (75 °F)	N/A	N/A
Sandwich Peel Strength (in lbs/in)	FTMS 406	7	N/A	N/A
Flatwise Tensile Strength (psi)	FTMS 406	490	N/A	N/A

*Tests performed using 2 plies LC-E421-C100 @ 43% RC, press cured @ at 250° F, 25 psi pressure using ½" thick, 1/8" cell, 3# Nomex™ honeycomb core.

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